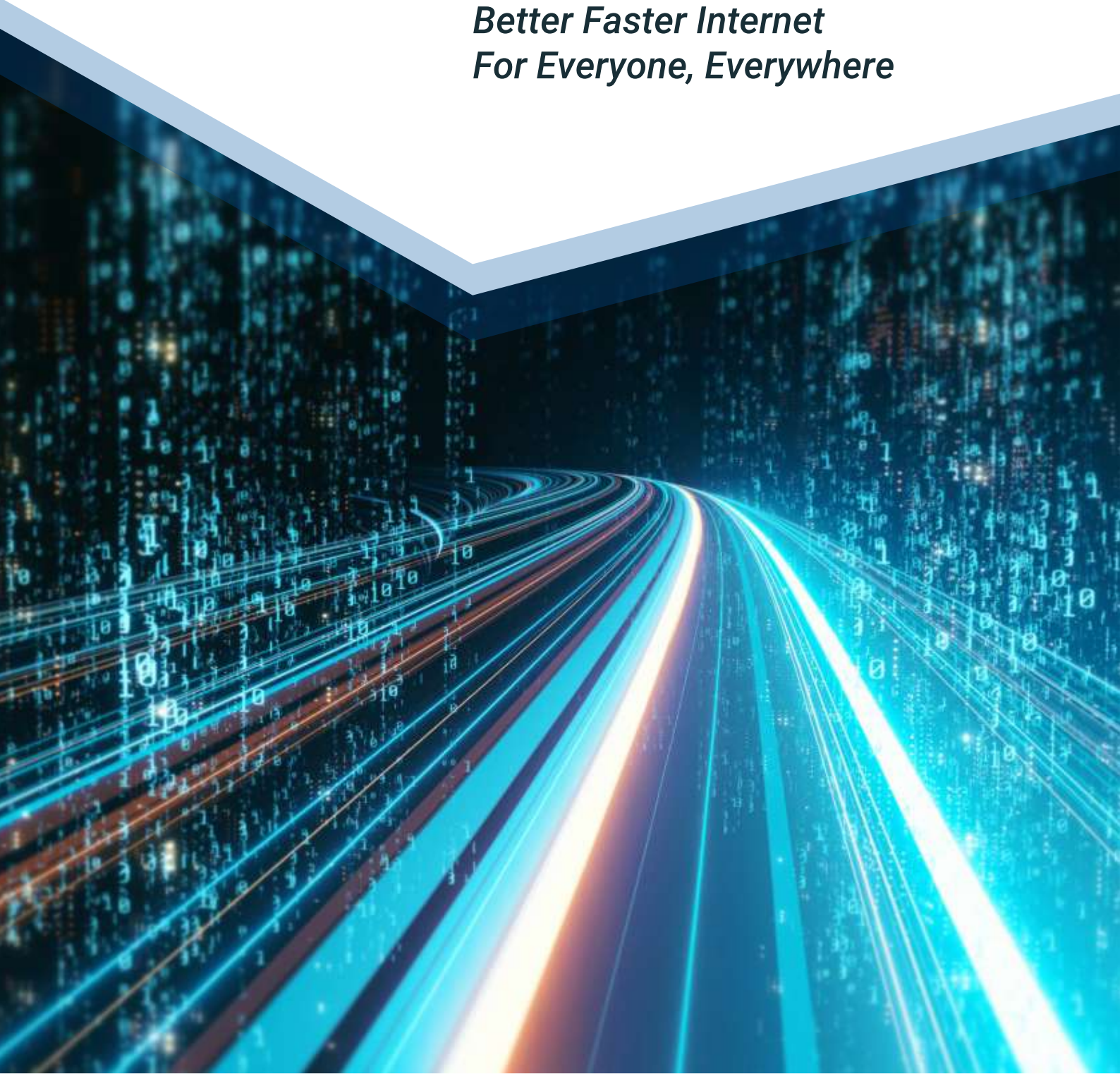


# *SpeedUp BOX*

*– Layer4 LAN&WAN Accelerator –*

*Better Faster Internet  
For Everyone, Everywhere*



*Internet Accelerator Network Solutions*

**tayftch**

*innovation for everyone*



**BETTER  
FASTER  
INTERNET**

**FOR EVERYONE,  
EVERYWHERE**



## SpeedUp Maestro

—Layer4 LAN&WAN Accelerator—

- 500.000 TCP Session / Sec
- 4 x 2 SFP-Port + 2 x 2 LAN Port
- Redundant Power Supply
- 10-40 Gbit Ethernet
- By-pass Feature
- Call Center & E-Mail Support



Each port group is configured to accelerate Layer4 traffic of computers in different subnet topologies. Dual LAN port groups work as LAN IN- LAN OUT. When LAN IN- LAN OUT are in the same subnet, it works in Bridge Transparent and Bridge IP Filter Mode and when LAN IN- LAN OUT ports are not in the same subnet, it works in Gateway Transparent and Gateway IP Filter Mode. SpeedUpMaestro Layer4 LAN&WAN Accelerator can be used in both LAN and WAN environment.

SpeedUpMaestro is sold with a one-year software license package, with a lifetime hardware license. SpeedUpMaestro Accelerator mode gets activated when a valid license is identified.

## SpeedUp Captain

—Layer4 LAN&WAN Accelerator—

- 100.000 TCP Session / Sec
- 2 x 2 SFP Port + 2 x 2 LAN Port
- Redundant Power Supply
- 1-10 Gbit Ethernet
- By-pass Feature
- Call Center & E-Mail Support

Each port group is configured to accelerate Layer4 traffic of computers in different subnet topologies. Dual LAN port groups work as LAN IN- LAN OUT. When LAN IN- LAN OUT are in the same subnet, it works in Bridge Transparent and Bridge IP Filter Mode and when LAN IN- LAN OUT ports are not in the same subnet, it works in Gateway Transparent and Gateway IP Filter Mode. SpeedUpCaptain Layer4 LAN&WAN Accelerator can be used in both LAN and WAN environment.

SpeedUpCaptain is sold with a one-year software license package, with a lifetime hardware license. SpeedUpCaptain Accelerator mode gets activated when a valid license is identified.



## SpeedUp Pilot

—Layer4 LAN&WAN Accelerator—

- 10.000 TCP Session / Sec
- 2 x 2 LAN Port
- Call Center & E-Mail Support
- 1 Gbit
- By-pass Feature



Each port group is configured to accelerate WAN traffic of computers in different subnet topologies. Dual LAN port groups work as LAN IN- LAN OUT. When LAN IN- LAN OUT are in the same subnet, it works in Bridge Transparent and Bridge IP Filter Mode and when LAN IN- LAN OUT ports are not in the same subnet, it works in Gateway Transparent and Gateway IP Filter Mode. SpeedUpPilot Layer4 LAN&WAN Accelerator can be used in both LAN and WAN environment. SpeedUpPilot is sold with a one-year software license package, with a lifetime hardware license. SpeedUpPilot Accelerator mode gets activated when a valid license is identified.

## SpeedUp Leader

—Layer4 LAN&WAN Accelerator—

- 1.000 TCP Session / Sec
- 100 Mbit Ethernet
- Wi-Fi
- Call Center / Support
- E-Mail / Support

SpeedUpLeader is a mini, portable LAN device that accelerates Ethernet and Wi-Fi TCP traffic. SpeedUpLeader is designed for individual users such as computer gamers, home/small office users and business people. It accelerates the Upload TCP traffic of the computers it is connected to up to 100 Mbit. SpeedUpLeader is sold with a one-year software license package with a lifetime hardware license. SpeedUpLeader Accelerator mode gets activated when a valid license is identified.



# ? What Is SpeedUpBOX? How Does It Run?

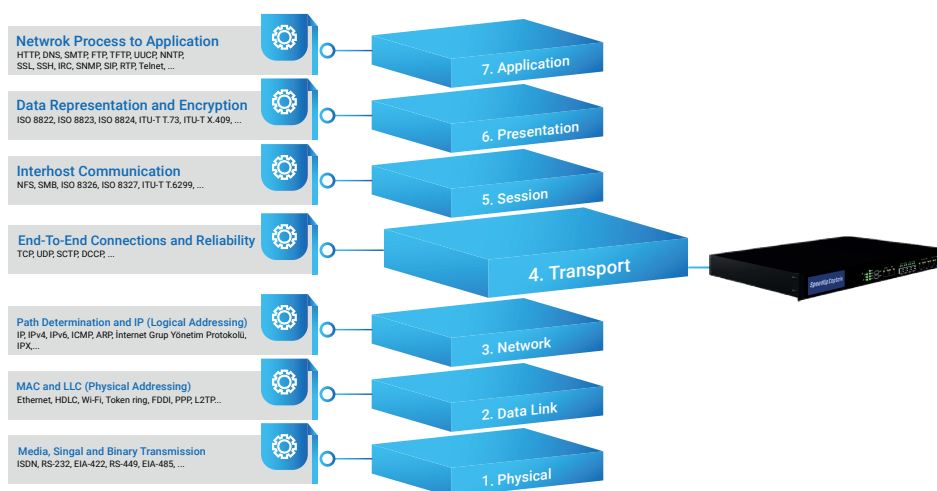
SpeedUpBOX Layer4 LAN&WAN Accelerator offers unrivaled solutions to the problems experienced in the WAN traffic, with its (PCT & EPO & TPE) Patented software and hardware technology for internet network experiencing bandwidth capacity problems. Regardless of the operating system of the sender computers (Windows, Linux, macOS) that create traffic in WAN networks,

SpeedUpBOX dynamically adapts to the bandwidth bottleneck and congestion problems in internet traffic and offers an unrivaled speed performance by managing occurrences such as delay and packet loss smarter than all known solutions.

SpeedUpBOX Layer4 LAN&WAN Accelerator solutions have been introduced to the market with different models with different throughput and session performance, meeting various user needs of small, medium & large enterprises in all internet-dependent segments.

SpeedUpBOX investment saves from the ever-increasing bandwidth cost and system upgrade investments. With the economic value added and unrivaled technology gain, it provides the recovery of the investment cost in the shortest time.

- It is located in the local network topology, between the physical and virtual (Sender/Tx) computer and WAN directing systems such as router, firewall, modem.
- It runs transparently with QoS applications and Layer3 systems in wired (copper, fiber) and wireless (3G / 4G / 5G and 802.11) wide area networks.
- As the bandwidth demand increases in WAN traffic, it provides high speed and lowest packet loss performance in upload and download WAN traffic without being affected by the factors that disrupt internet traffic such as congestion, packet drop, latency, jitter.
- It preserves the existing bandwidth without making any hardware/system change in the existing network topology and speeds up the internet traffic depending on the congestion conditions.
- When it runs uni-directionally on the Transmit Tx / Sender side, it accelerates the upload traffic of the sender computers. When it runs both at the Tx / Sender transmitter computer side and Rx / Destination receiver computer side, it mutually speeds up the upload traffic of both sender computers and client computers.
- It does not use buffering (cache) in user connections (such as real-time video conference, Gamer, etc.) and does not create an additional delay.
- Provides efficient use of energy and excellent time management as it uses the bandwidth at maximum efficiency
- Allows Upload/Download to be done with maximum efficiency regardless of the size or format of the data.
- Transparent Mod: TCP traffic of all sender computers directed to LAN/SFP ports of SPEEDUPBOX is accelerated.
- IP Filter Mod: Internet traffic is accelerated by defining the IP addresses and TCP port numbers of the Server / Sender computers whose TCP traffic is aimed to be accelerated.





### Conventional WAN Accelerator Solutions

### SpeedUpBOX Layer4 LAN&WAN Accelerator

	Conventional WAN Accelerator Solutions	SpeedUpBOX Layer4 LAN&WAN Accelerator
Data Compression	Compressing the data increases the data transfer time and causes data to be queued on the sender PC/Server. Therefore, it puts an extra load on the processor on the sender PC/Server.	SpeedUpBOX ensures that the bandwidth is used at maximum throughput so that the data is sent without waiting and reduces the CPU load of the Sender PC/Server.
Caching	Deciding which data will be cached for how long is a complex process for a device; therefore it causes the data to be transferred with extra latency. Considering today's data transfers take place in nanoseconds or even picoseconds, it becomes impossible to transmit data faster by caching.	SpeedUpBOX ensures that the bandwidth is used at maximum throughput so that the data is sent without waiting and reduces the CPU load of the Sender PC/Server.
Data Deduplication	The deduplication process is complex and places additional load on the processor, which can cause performance degradation. It also requires fine-tuning. However, fine-tuning the internet network is a big risk. Incorrect configuration may cause other applications to be adversely affected.	SpeedUpBOX does not analyze the packet/data content for format analysis and supports maximum throughput data performance without impairing the file integrity of all packets.
Information Security and Integrity	Techniques applied to raw data can cause damage to the data. According to user comments in Gartner, it is stated that there are interruptions in some applications (SAP, Office 365). It requires fine-tuning.	SpeedUpBOX only deals with the Header of the data packets on the Layer4 so it does not take any action on the raw data.
Configuration Difficulty	They require fine-tuning. Incorrect configuration may cause other applications to be adversely affected. In a system that needs to be managed continuously, it increases the workload of IT personnel and causes time loss.	No other configuration is required other than a few basic settings.
Web Interface	Users state that the web interface works very slowly, it is difficult to configure, and that they need to pay for the support from the manufacturer (Gartner).	SpeedUpBOX has a modern and userfriendly interface and allows the user to make adjustments themselves without necessiating constant support. In addition, the response times of the web interface are very short and the web interface allows the user to work comfortably.
Book-ended Positioning	It needs to be positioned on both sides. Otherwise, only the Traffic Shaping and Load Balancing features can be used.	It can be positioned on the sender (upload) side only. If there is a heavy upload on both sides, positioning it on both sides brings an extra performance.



	<u>Conventional WAN Accelerator Solutions</u>	<u>SpeedUpBOX Layer4 LAN&amp;WAN Accelerator</u>
Bypass	An extra fee is required for the bypass module.	The bypass feature is included.
SD-WAN	With the advent of SD-WAN, the need for traditional WAN Accelerator devices is decreasing.	The need for SpeedUpBOX has increased due to the transition to hybrid WANs and higher speeds with SD-WAN.
Present Conditions	Acceleration methods such as Data Compression, Data Deduplication, and Cache retrieval have been implemented by the server where the data comes out, so the need for WAN Accelerator Devices has disappeared.	The need for SpeedUpBOX has increased due to the transition to hybrid WANs and higher speeds with SD-WAN.
Price / Performance	It is frequently stated by users that their prices are too expensive (Gartner).	SpeedUpBOX has a much more affordable price than other WAN Accelerator products.
Traffic Shaping	Traffic Shaping is a process that requires in-depth configuration, and in fact, it is the process of finding a solution by reducing the data transfer on the congested bandwidth. It does not improve the current throughput. This process includes many operations that make users unhappy, such as slowing most users' internet and blocking their access.	Traffic shaping is not used on SpeedUpBOX. Since the current bandwidth usage is always at maximum levels, internet applications have no slowdown.
Protokol Spoofing	Acceleration is achieved by transmitting transport layer protocols to protocols that require fewer packet headers and handshakes. However, the reliability of data transmission (data integrity) may suffer.	Maintains the reliability of data transmission without changing the protocol type.

## FIELDS OF APPLICATION - USAGE SCENARIOS

It accelerates the upload traffic of all systems which offer service of communication, provide content and perform data transfer via the internet with higher performance than all known applications.

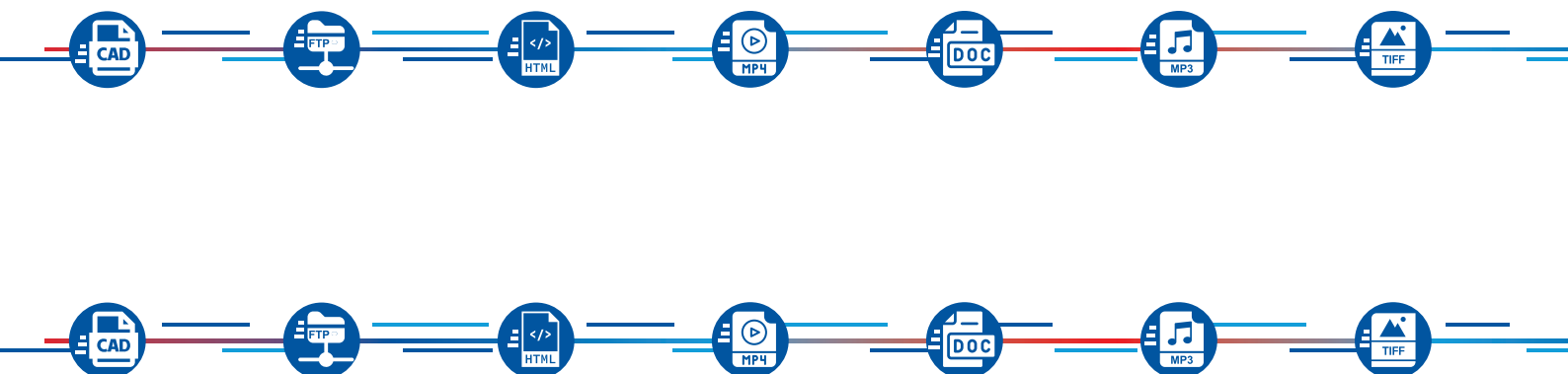
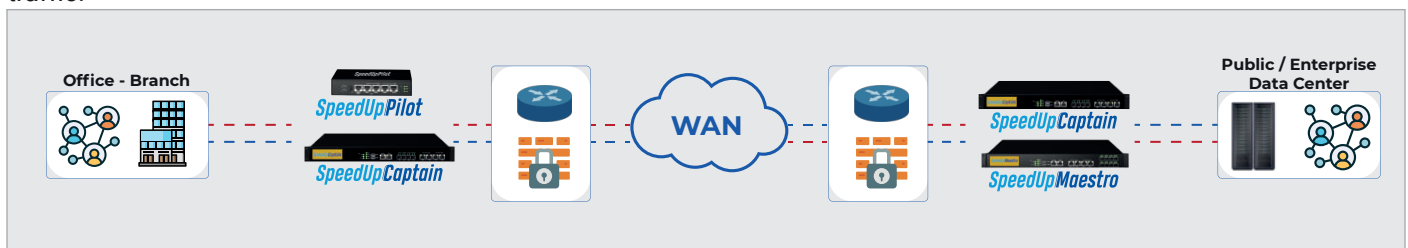
CDN, IPTV, PayTV, WEB TV, WEB Hosting, Data Center, Cloud Gaming/GaaS Platforms are a new and superior technology which accelerates logarithmically the internet network traffic for the institutions offering Public service via the internet, Municipalities, Banks, e-Commerce, Data Center-Hosting services, LTE, Remote Education, Media, Hospitals, Tourism enterprises, Industry / SME companies, Enterprise back-up and recovery services compared to all known technologies and which offers high network performance.

### Big Public / Enterprise with Distributed Architectural Internet Infrastructure

All institutional infrastructures use L7 protocols which intensely use TCP in the 4th layer both in the Cloud services (web page, interactive services etc.) and in the in-house services. Additionally, it sends the inter-branch and center-branch TCP traffic using different tunneling methods (GRE, MPLS L3 VPN, DMVPN etc.) for the purposes of security requirements and virtual privilege in institutions using distributed architecture center-branch architecture. Those tunneling protocols increase the size of the package transferred and leads to additional band width necessity. Delays in the network traffic or package losses may occur particularly in the ADSL connections of the branches.

Our SpeedUpBOX Layer4 LAN&WAN Accelerator shall prevent data loss and delay both in the in-house traffic of those services and in the distributed architecture traffic. Additionally, each institution uses different database systems depending on the type of the user control and authorization or the services offered. Fast and lossless access is required in all of those systems but particularly in the backup and recovery mechanisms.

Since our SpeedUpBOX Layer4 LAN&WAN Accelerator could run bipartitely in those systems, it shall prevent the band width of all services to be affected by the bottleneck formations and shall mutually provide high speed and lossless data traffic.

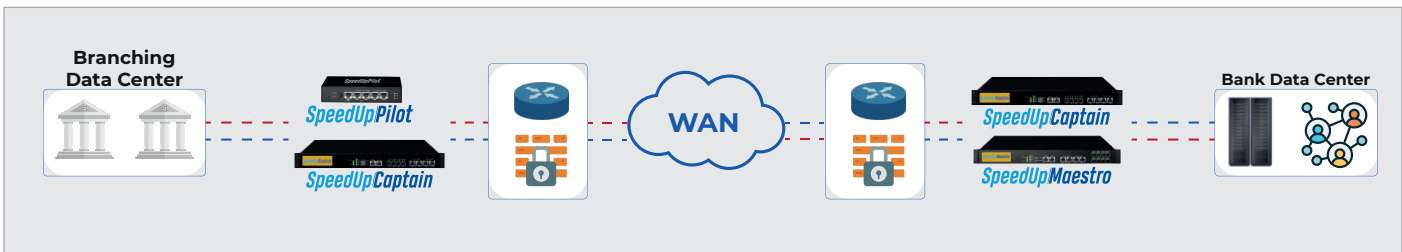


## Banking / Finance

Due to the necessity for the purchasing/sale transactions in the finance sector and the real time Banking transactions to be performed fast and reliably without being affected by the bottleneck formations arising in the internet networks, L7 protocols using ciphering and running on TCP are used. Since those transactions cannot tolerate losses of package and time, low-latency infrastructure is required.

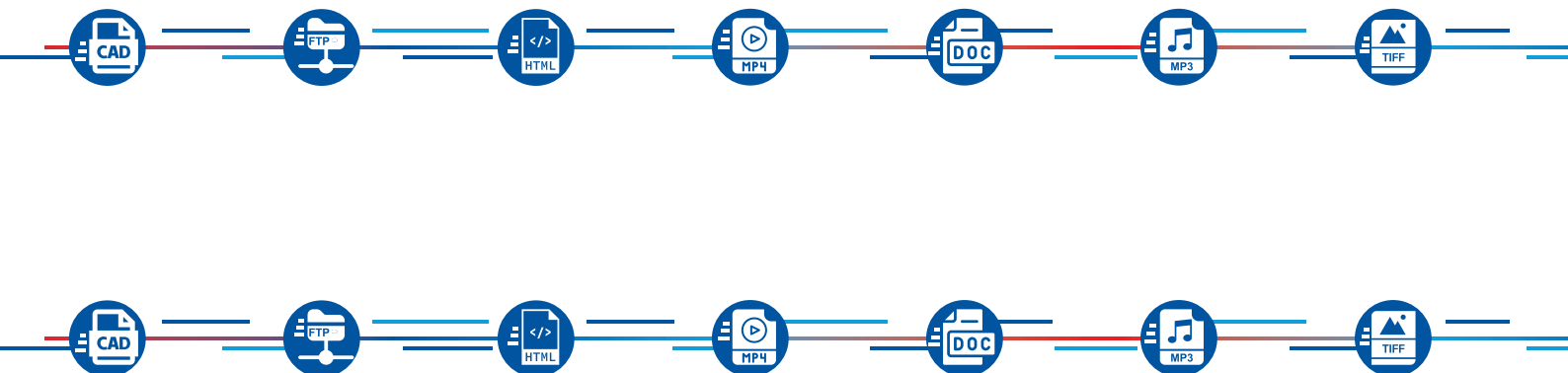
When our SpeedUpBOX Layer4 LAN&WAN Accelerator are used with a bookended structure in the Branch-Center (server-client / client-server) locations in the Finance and Banking systems which cannot tolerate delays and losses of package, they will solve the performance problems of the customers and the system directors and increase the user satisfaction.

Furthermore, several data center infrastructures (systems such as stretch cluster etc.) are used in general for backup purposes in the finance sector. It is highly significant for the databases to run synchronously with one another in those data centers. When our SpeedUpBOX Layer4 LAN&WAN Accelerator are positioned in a bookended manner in both sides between the data centers, they will meet those requirements, prevent occurrence of delays and losses of package and provide maximum efficiency for very fast and reliable performance of the transactions of synchronization.



## LTE eNodeB

Today, millions of mobile telephone and internet subscriber users perform synchronous data, audio and video data traffic. This chaotic data traffic developed everyday makes it critical to offer an infrastructure which cannot tolerate delays and losses of package. Our SpeedUpBOX Layer4 LAN&WAN Accelerator both speed up this WAN traffic realized between the end user and the sender-receiver sending the service that the end user requests and speed up the TCP traffic arising within the ISP systems in the local network depending on this. Fast and reliable realization of this traffic shall directly be reflected to the end user. When our SpeedUpBOX Layer4 LAN&WAN Accelerator are positioned in the outlet of the eNodeB retransmit servers of the service provider, the efficiency and speed of the entire WAN traffic shall increase.

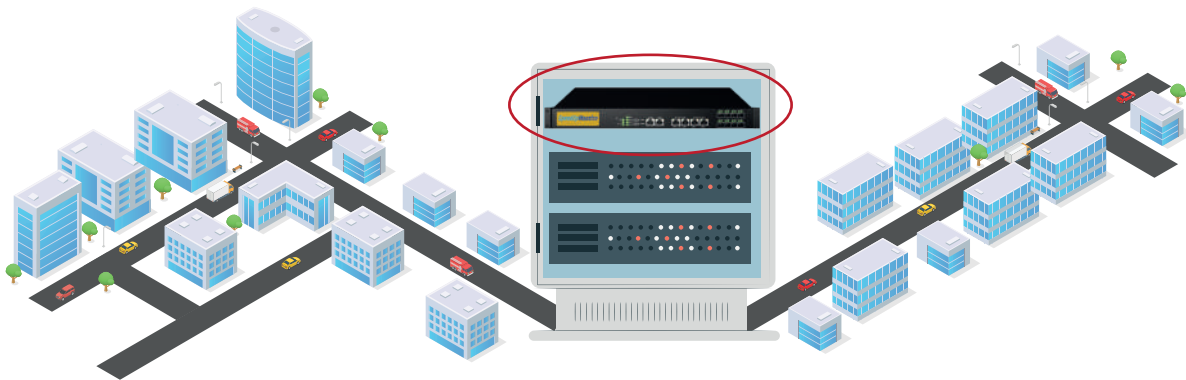




**CDN IPTV / PayTV / WEB TV / OTT / EST / VOD**

CDN applications generally use smaller data centers positioned locally depending on customer intensity in the distributed architecture rather than the main data center of the services peculiar to the user. It has been aimed at providing the frequently used services as locally as possible using a specific caching timing.

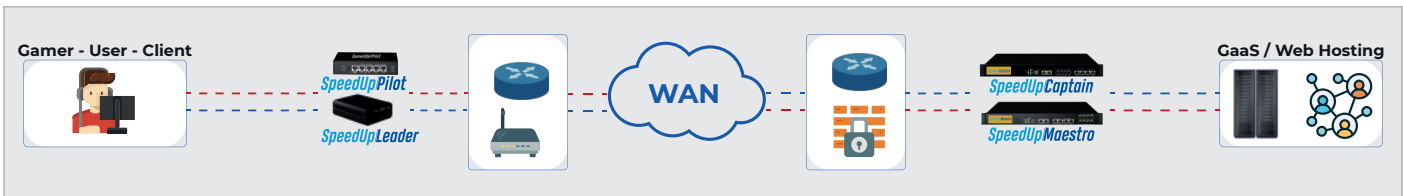
Our SpeedUpBOX Layer4 LAN&WAN Accelerator shall prevent the data loss and delay of those services both in the customer - CDN Local Node traffic and CDN Local Node – Main DC traffic. Although the video traffic is generally given as UDP based multicast in applications including IPTV, WebTV, SetTopBox etc., the synchronization of this traffic, the transactions of faster zapping, VoD periods and depending pricing, user control and user profile transactions have to be performed as TCP based. Our SpeedUpBOX Layer4 LAN&WAN Accelerator shall prevent the delay resulting from formations of band width bottleneck in the aforementioned transactions both in the CDN architecture and in the central systems and the losses of package, decrease the jitter and consequently shall develop system performance and increase the end customer/user satisfaction.



**Cloud / WEB Hosting, Cloud Gaming / GaaS**

All cloud applications have emerged for the purpose of decreasing the Capex and Opex costs by providing the server/sender transactions for the services via cloud rather than locally.

However provision of those services via cloud rather than locally, sending the traffic out of the corporation and taking the same back become usable and advantageous in terms of both security and the losses of time and data resulting from the additional traffic only when used together with different solutions eliminating the aforementioned disadvantages. The additional solutions used in the field of security shall mean increase of the package size of MPLS, GRE and similar VPN solutions and consequently increase of the WAN traffic in action. Our SpeedUpBOX Layer4 LAN&WAN Accelerator shall highly decrease the package losses and delay in the entire WAN traffic in web hosting servers, online game GaaS sector, in the case that the corporate services are carried on the cloud and shall provide contribution of high performance in provision of all such services fast and without any problem.



## Data Center

Delay and formation of package loss in the traffic within the data center and the traffic among the data centers (database synchronization, virtual machine carrying etc.) and all associated services and furthermore in the traffic created by the users outsourcing service for the data center adversely affect the user experience, service interruption period and in general the work continuity.

When our SpeedUpBOX Layer4 LAN&WAN Accelerator are positioned in bookended manner in the traffic among the data centers, they will provide higher performance in fast and reliable provision of all synchronization and Single Sign-On transactions compared to all known systems. It is also observed that the data traffic in the data center is usually inter-server traffic and the proportion of this traffic to the entire traffic increases day by day. All those problems shall be solved by determining the inter-server workflow in a data center on service basis and directing the traffic created by the servers which need high traffic and speed or sensitive to delay and package loss via the SpeedUpBOX Layer4 LAN&WAN Accelerator.



## E-Commerce

Similarly to the finance sector, the requests for simultaneous connection to the E-Commerce servers are required to be realized without any delay and all records are required to be processed fast and reliably. The data losses and delays that could be encountered in purchasing/sales transactions lead to both material losses and customer dissatisfaction. When the SpeedUpBOX Layer4 LAN&WAN Accelerator are positioned in the server side, customer applications shall speed up the traffic and prevent data losses. In the case that a secondary data center or backup database is used in terms of backup, the application, when positioned in both sides, shall offer solution for the problems of synchronization among servers/databases and delay and package loss and increase the efficiency.



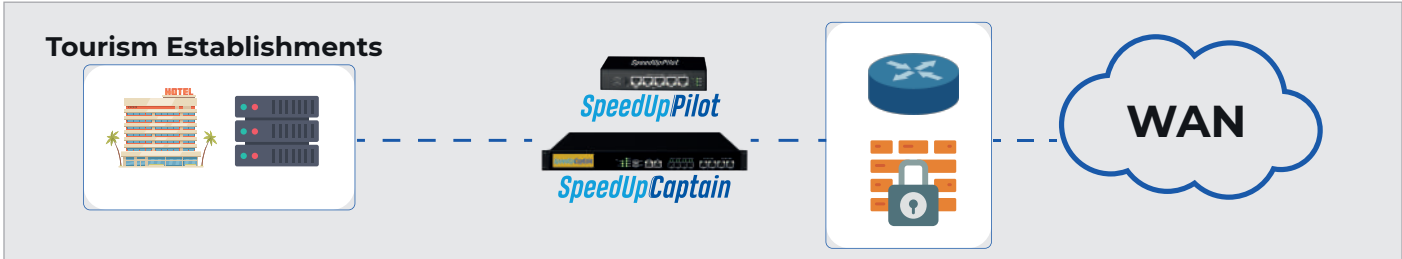
## Remote Education, Education Institutions

Although it is considered at first sight that the data traffic in the remote education sector is video and audio based, and consequently protocols using UDP are generally used; TCP based protocols are used for such functions as the time synchronization of those protocols, initial connection transactions, re-connection and the period and quality of provision of the connection, logging off. When SpeedUpBOX runs at the server side on the aforementioned TCP based transactions, it shall decrease the data losses in all those transactions, shall enable to perform the transactions of connections much faster and more reliably and increase the user satisfaction.



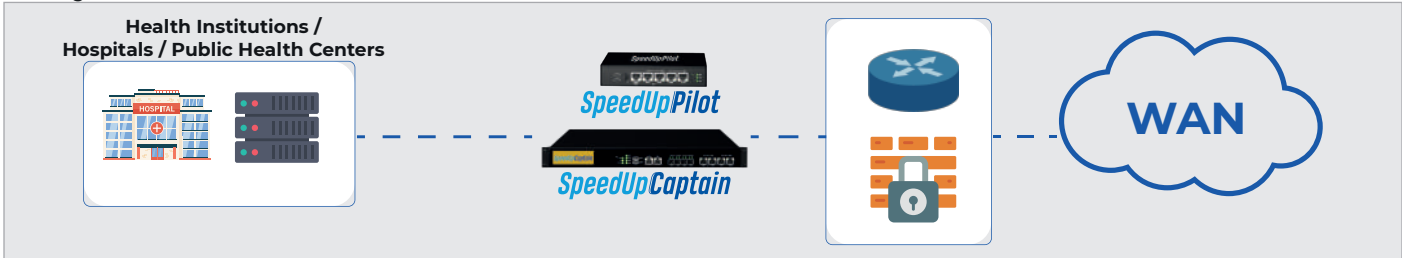
## Tourism Establishments

The most significant data service in the tourism sector could provide wireless infrastructure for the customers. The data traffic among the hotels and inter-database synchronization are important as well in big size enterprises. It becomes critical to provide fast service in the services including the traffic between customer – service server in wireless transactions inside the hotel, database backup, access of the hotel personnel to the records and update of the records by the hotel personnel, inter-hotel database synchronization. When SpeedUpBOX Layer4 LAN&WAN Accelerator runs at the server side on the aforementioned TCP based transactions, it shall decrease the data losses in all those transactions, shall enable to perform the transactions of connections much faster and more reliably and increase the user satisfaction.



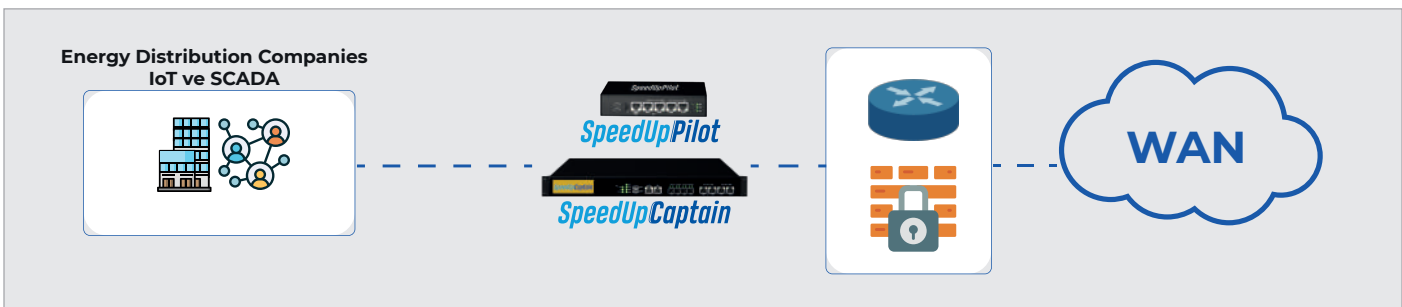
## Health Institutions / Hospitals / Public Health Centers

The requirements of the health sector highly resemble to the requirements of the finance sector in technological terms. Delay and data loss in the internet traffic are unacceptable in both and increase in data loss and requests for resending means high damage for both. In the case that the band width requirements cannot be met sufficiently in the distributed architecture infrastructure of hospitals together with the request for high band width created by the traffic of simultaneous connection to the central health systems of the hospitals in the health sector, the solutions of SpeedUpBOX Layer4 LAN&WAN Accelerator shall increase the efficiency both for the in-house traffic in the servers inside the health institution and for the inter-hospital traffic and provide multidirectional performance to the system management.



## City Security, Energy Distribution Companies etc. IoT and SCADA applications

IoT and SCADA applications find increasingly widespread field of application both in the energy sector and in the services for the end user such as water, natural gas distribution. For example, transfer of SCADA system data to the central systems without loss and delay in any water or natural gas company, track of the counter failures, rendering the traffic of the databases of counter reader-main center faster and more reliable though in-place reader is used is highly significant. The transfer of the outside camera images and sensor data used in the city security services to the main center systems should also be assessed within a similar scope. When SpeedUpBOX Layer4 LAN&WAN Accelerator is positioned in the sender-receiver / receiver-sender side of all those services, it shall provide high speed data traffic performance without any delay and data loss.





# *SpeedUp BOX*

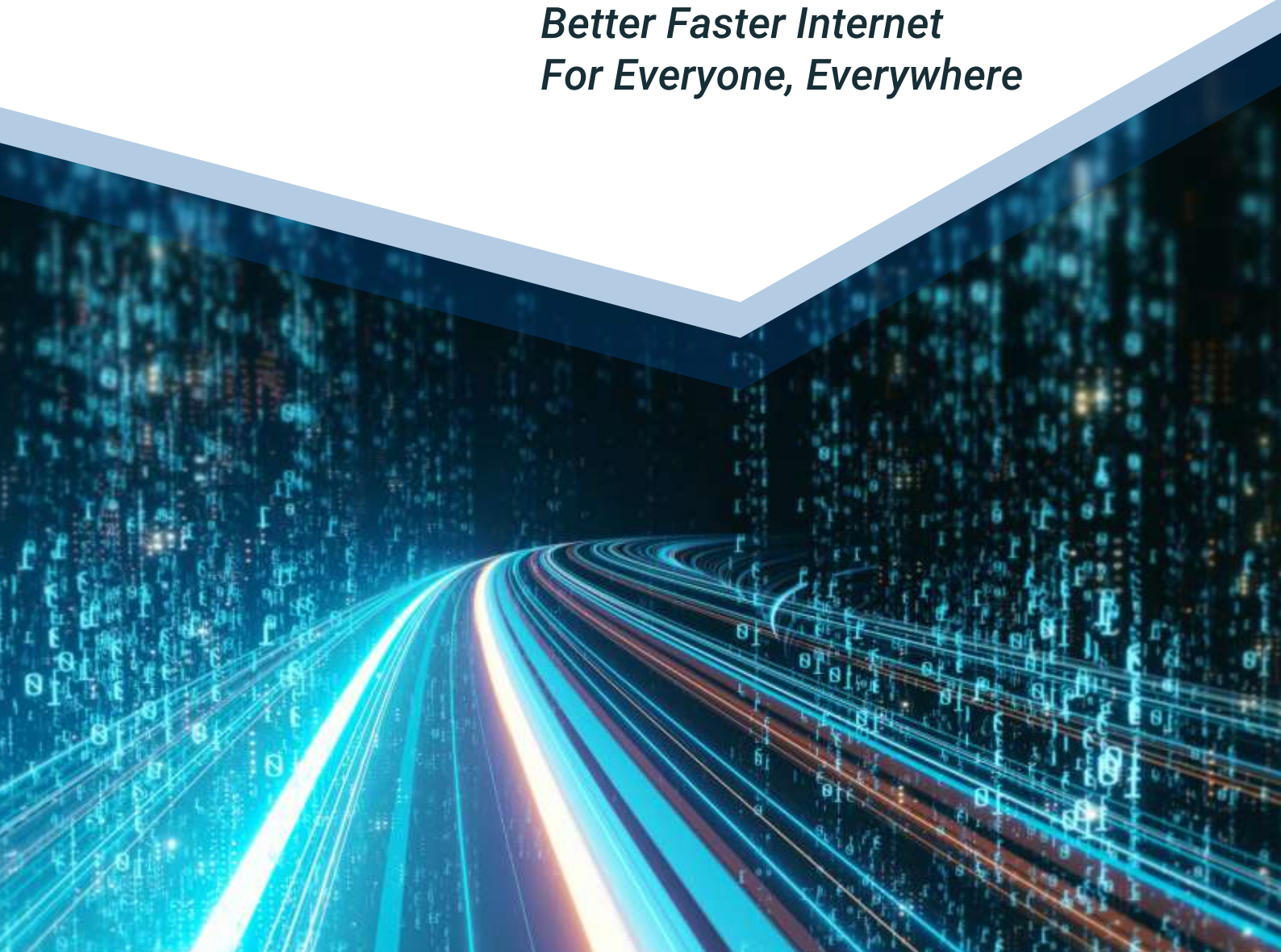
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